

### **REMARKS**

Claims 1-4 and 11-13 are now pending in the application. By this paper, Claims 1, 3, 11, and 13 have been amended and Claims 5-10 and 14-21 have been cancelled without prejudice or disclaimer of the subject matter contained therein. The basis for these amendments can be found throughout the specification, claims, and drawings originally filed. No new matter has been added. The preceding amendments and the following remarks are believed to be fully responsive to the outstanding Office Action and are believed to place the application in condition for allowance. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 1-6, 11-15, and 20 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Claims 1, 2, 4-6, 11, 12, 14, 15, and 20 stand rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential elements.

These rejections are respectfully traversed.

At the outset, Applicant respectfully submits that these rejections are moot with respect to Claims 5, 6, 14, 15, and 20, as Claims 5, 6, 14, 15, and 20 have been cancelled without prejudice or disclaimer of the subject matter contained therein. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

Applicant respectfully submits that the amendments to independent Claims 1, 11, and 20 render these rejections moot, as the constants (a) and (b) have been removed

from each of independent Claims 1 and 11. Applicant respectfully submits that these rejections are also rendered moot with respect to Claims 2-4, 12, and 13, as Claims 2-4, 12, and 13 respectively depend from independent Claims 1 and 11. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

#### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1-5 and 11-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Choi et al. (U.S. Pat. No. 6,499,955). This rejection is respectfully traversed.

At the outset, Applicant respectfully submits that this rejection is moot with respect to Claims 5 and 14, as claims 5 and 14 have been cancelled without prejudice or disclaimer of the subject matter contained therein. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

Each of independent Claims 1 and 11 recite an impeller including an inducer having a height component in an axial direction (Z) that is substantially five to seven percent of an outer diameter of the impeller. The Examiner admits that Choi fails to disclose use of an inducer including a height component in an axial direction (Z) that is substantially five to seven percent of an outer diameter of an impeller. Accordingly, Applicant respectfully submits that independent Claims 1 and 11, as well as Claims 2-4, 12, and 13, respectively dependent therefrom, are in condition for allowance.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 6, 15, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi et al. (U.S. Pat. No. 6,499,955) in view of Atkinson (U.S. Pat. No. 2,819,012). This rejection is respectfully traversed.

Applicant respectfully submits that this rejection is moot, as Claims 6, 15, and 20 have been cancelled without prejudice or disclaimer of the subject matter contained therein. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

While Claims 6, 15, and 20 have been cancelled without prejudice, the subject matter of Claims 6 and 15 have been respectively incorporated into independent Claims 1 and 11. The Examiner, in rejecting now-cancelled Claims 6 and 15, relied primarily on Atkinson as disclosing an inducer having a height that is "shorter than optimal," stating that it would have been obvious to one of ordinary skill in the art in light of the teachings of Choi to reduce a height of an inducer within the range of five to seven percent of an outer diameter of an impeller. Applicant respectfully submits that Atkinson fails to disclose an impeller having a height that is substantially five to seven percent of an outer diameter of an impeller and, further, that Atkinson actually teaches away from providing an impeller with an inducer having a height that is five to seven percent of an outer diameter of the impeller.

Atkinson discloses a compressor having a rotor (10), an inducer (12), and an impeller (13). see Atkinson at Col. 2, Ins. 20-47, and Figure 1. Atkinson notes that a "length of the inducer" may be limited based on the overall length of the rotor (10) and machine tool requirements. See Atkinson at Col. 4, Ins. 15-17. While Atkinson notes

that the “length” of the inducer may be limited, Atkinson fails to disclose what direction in which the “length” is defined. Furthermore, Applicant submits that simply stating that a length of an inducer “may be limited” does not teach or suggest an inducer having a height in an axial direction that is substantially five to seven percent of an outer diameter of the impeller.

Assuming arguendo, that the “length” of the inducer described at Col. 4, Ins. 15-17 of Atkinson, is in the axial direction, as recited by independent Claims 1 and 11 of the present application, Applicant submits that Atkinson actually teaches away from providing an inducer with a “length” that is substantially five to seven percent of an outer diameter of an impeller. Rather, Atkinson notes that “effort should be made to provide an inducer portion of such length that tangential acceleration in the inducer approximately equals that in the impeller.” See Atkinson at Col. 4, Ins. 26-31. While Atkinson discloses that the inducer may be “shorter than optimum,” Atkinson teaches that the length of the inducer should be approximately *equal* to that of the impeller to provide the compressor with optimum operating conditions—not five to seven percent of an outer diameter of an impeller.

In light of the foregoing, Applicant respectfully submits that independent Claims 1 and 11, as well as Claims 2-4, 12, and 13, respectively dependent therefrom, are in condition for allowance.

#### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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